UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _29 February 2008_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-15_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-15_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _01/26/2004, 02/29/2008_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All　b)☐ Some *　c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-15 are pending.

Specification

2.   The abstract of the disclosure is objected to because the abstract exceeds acceptable word length, the abstract is over 200 words. Correction is required. See MPEP § 608.01(b).

3.   Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4.   The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claim 15, "computer readable" is not disclosed in the specification to

support the claimed computer readable memory. Applicant is suggested to amend the claim to

recite "a computer memory device storing a set of instruction".

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

6.   Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the

written description requirement. The claim(s) contains subject matter which was not described

in the specification in such a way as to reasonably convey to one skilled in the relevant art that

the inventor(s), at the time the application was filed, had possession of the claimed invention.

Currently amended claim 15 recites "computer readable memory device" does not appear to be

described in the specification in such a way as to reasonably convey to one of ordinary skill in

the art that at the time the application was filed had possession of the claimed invention.

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

8.   Claims 2-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

        a.   The following claim language is vague or indefinite.

      i.   As per Claims 2, 6 and 9, it is uncertain as to what is included in z how is

the relationship among other variable (i.e. integer number, positive number,

bigger, less than, etc.).

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebner et

al.(Ebner) US Patent No. 6594718.

11.   As per Claim 1, Ebner teaches the invention substantially as claimed including a method

of generating a pattern for n lots of A and (2^z-n) lots of B, where n and z are positive integers

(col 7, lines 15-20; col 6, lines 18-20) comprising:

      creating a key comprised of the revere bit order of a serially indexed count from 0 to 2^z

(Col 3, lines 9-13; col 6, lines 15-19);

      corresponding to said key in which all values in the key less than n are replaced by A and

all other values in the key are replaced by B (column 4, lines 32-36; col 6, lines 33-45; col 7,

lines 52-64);

However, Ebner does not explicitly disclose generating an interleave pattern correspondence to a key.

12.   It would have been obvious to one of the ordinary skill in the art at the time of the invention to create an interleave pattern from a key of reverse bit order sequence of number as it is well known in the art to create interleave pattern from sequence of numbers representing a specific pattern.

Ebner does not specifically disclose distributing said n lots of A tasks and $(2^z - n)$ lots of B tasks to a plurality of processing elements according to said interleave pattern to balance the workload across said plurality of processing elements and B equals A+1 (figure 5, col 7, lines 34-51).

13.   It would be obvious to one of the ordinary skill in the art at the time of the invention to utilize the reverse bit algorithm for creating a interleave pattern for distributing loads in a number of processing elements with different variable values based on the systems load condition. The algorithm is used to distribute access tokens between multiple tokens for an even distributed balanced operation and it would be obvious to use it for distributing loads between processing elements as the purpose of the usage and the result would be same with different set of variable with different values.

14.   As per Claim 2, Ebner teaches the invention substantially as claimed including a method

generating a pattern for lots of A and lots of B, wherein n and y are positive integers, n plus y

does not equal to power of two (col 7, lines 15-20; col 8, lines 4-9) comprising:

        creating a list in which the entries are comprised of the reverse bit order of the serially

indexes count from 0 to 2^z (Col 3, lines 9-13; col 6, lines 15-19).

        selecting a portion of a list (figure 5; col 8, lines 10-14);

        renumbering the selected portion of the list to form a key (figure 6); and

        corresponding to said key in which all values in the key less than n are replaced by A and

all other values in the key are replaced by B (column 4, lines 32-36; col 6, lines 33-45; col 7,

lines 52-64).

        However, Ebner does not explicitly disclose generating an interleave pattern

correspondence to a key and B equals A plus 1.

15.   It would have been obvious to one of the ordinary skill in the art at the time of the

invention to create an interleave pattern from a key of reverse bit order sequence of number as it

is well known in the art to create interleave pattern from sequence of numbers representing a

specific pattern and to use variables of different value to utilize the algorithm in different

prospective.

        Ebner does not specifically disclose distributing said n lots of A tasks and y lots of B

tasks to a plurality of processing elements according to said interleave pattern to balance the

workload across said plurality of processing elements (figure 5, col 7, lines 34-51).

16.   It would be obvious to one of the ordinary skill in the art at the time of the invention to

utilize the reverse bit algorithm for creating a interleave pattern for distributing loads in a

number of processing elements with different variable values based on the systems load

condition. The algorithm is used to distribute access tokens between multiple tokens for an even

distributed balanced operation and it would be obvious to use it for distributing loads between

processing elements as the purpose of the usage and the result would be same with different set

of variable with different values.

17.   As per Claim 5, Ebner teaches renumbering in order of ascending value (col 7, lines 23-

24).

18.   As per Claim 6, Ebner teaches the invention substantially as claimed including a method

comprising:

        creating a key comprised of the revere bit order of a serially indexed count from 0 to 2^z

(Col 3, lines 9-13; col 6, lines 15-19);

        storing the table (figure 4);

        creating a table of patterns for all values of n lots of A and (2^z-n) lots of B where n is a

positive integer and B equals A+1 (figure 4, 6, 5; column 4, lines 32-36; col 7, lines 15-20; lines

31-34; lines 52-64;);

        However, Ebner does not explicitly disclose generating an interleave pattern

correspondence to a key.

19.   It would have been obvious to one of the ordinary skill in the art at the time of the

invention to create an interleave pattern from a key of reverse bit order sequence of number as it

is well known in the art to create interleave pattern from sequence of numbers representing a

specific pattern.

        Ebner does not specifically disclose distributing said n lots of A tasks and $(2^z - n)$ lots of

B tasks to a plurality of processing elements according to said interleave pattern to balance the

workload across said plurality of processing elements (figure 5, col 7, lines 34-51).

20.   It would be obvious to one of the ordinary skill in the art at the time of the invention to

utilize the reverse bit algorithm for creating a interleave pattern for distributing loads in a

number of processing elements with different variable values based on the systems load

condition. The algorithm is used to distribute access tokens between multiple tokens for an even

distributed balanced operation and it would be obvious to use it for distributing loads between

processing elements as the purpose of the usage and the result would be same with different set

of variable with different values.

21.   As per claim 7, Ebner further discloses automatically selecting an interleave pattern from

the table based on one of the values of n and (2^z-n) (col 6, lines 15-20; col 8, lines 4-14).

22.   As per claim 9, it has similar limitations of claims 6 and 9 above. Therefore it is rejected

under the same rational as of claims 6 and 9 above.

23.   As per claim 12-13, they have similar limitations as of claims 5 and 7 above. Therefore

they are rejected under the same rational as of claims 5 and 7 above.

24.   As per claim 15, it has similar limitations as of claim 1 above. Therefore it is rejected

under the same rational as of claim 1 above.

Allowable Subject Matter

25.   Claims 3, 4, 8, 10, 11 and 14 are objected to as being dependent upon a rejected base

claim, but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims.

Response to Arguments

26.   Applicant's arguments with respect to claim(s) have been considered but are moot in view

of the new ground(s) of rejection.

Conclusion

27.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

28.   A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

29.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to ABDULLAH AL KAWSAR whose telephone number is

(571)270-3169. The examiner can normally be reached on 7:30am to 5:00pm, EST.

30.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng Ai T. An can be reached on 571-272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

31.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Abdullah-Al Kawsar/
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/Li B. Zhen/
Primary Examiner, Art Unit 2194